AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior listings of claims in the present application.

What Is Claimed Is:

1 - 8. (cancelled)

9. (original) An image analysis apparatus for recognizing an object image included in a frame image, the object image including a reference cell having a predetermined shape and a plurality of corner cells assigned a color different from that of the reference cell, comprising:

a binarization processor which sets up a range of pixel values in the RGB format so as to translate the frame image into a binary bit representation;

a first detector which detects the reference cell in binary data for the frame image; and

a second detector which detects the corner cells in the binary data for the frame image, wherein

the binarization processor sets up a range of pixel values in the RGB format for detecting the reference cell and binarizes the frame image by extracting pixels within the range thus set up, whereupon the first detector detects the reference cell by referring to the resultant binary data, and

the binarization processor sets up a range of pixel values in the RGB format for detecting the corner cells and binarizes the frame data by extracting pixels within the range thus set up, whereupon the second detector detects the corner cells by referring to the resultant binary data.

10. (original) A method for recognizing an object image included in a frame image, the object image including a reference cell having a predetermined shape and a plurality of corner cells assigned a color different from that of the reference cell, comprising:

setting up a range of pixel values in the RGB format for detecting the reference cell, extracting pixels within the range thus set up, and detecting the reference cell in the frame image; and

setting up a range of pixel values in the RGB format for detecting the corner cells, extracting pixels within the range thus set up, and detecting the corner cells in the frame image.

11. (original) A computer readable recording medium having embodied thereon a program product comprising computer readable codes for causing a computer to recognize an object image included in a frame image, the object including a reference cell having a predetermined shape and a plurality of corner cells assigned a color different from that of the reference cell, the program product comprising:

a reference cell detecting module which sets up a range of pixel values in the RGB format for detecting the reference cell, extracts pixels within the range thus set up, and detects the reference cell in the frame image; and

a corner cell detecting module which sets up a range of pixel values in the RGB format for detecting the corner cells, extracts pixels within the range thus set up, and detects the corner cells in the frame image.

12. (currently amended) A card comprising:

a reference cell having a predetermined shape;

a plurality of polygonal cells to form code data; and a plurality of corner cells having an identical shape, wherein

each of the plurality of corner cells occupies a larger area than any of the polygonal cells, and

the polygonal cells are provided outside an area surrounded by the plurality of corner cells.

13. **(original)** The card according to claim 12, wherein the corner cells are assigned a color different from that of the reference cell and the polygonal cells.

14. **(previously presented)** The card according to claim 12, wherein the corner cells are triangular.

15. **(previously presented)** The card according to claim 12, wherein the corner cells are aligned to the respective edges of the card and are assigned a color other than black.

16. **(currently amended)** A rectangular card comprising:

a reference cell having a predetermined shape;

a plurality of polygonal cells forming code data; and

a plurality of corner cells having an identical shape, wherein

each of the plurality of corner cells occupies a larger area than any of the rectangular cells,

the plurality of corner cells are provided at a first edge and a second edge of the card opposite to each other, and

at least some of the plurality of polygonal cells are provided in the neighborhood of a third edge different from the first edge and the second edge and are arranged parallel with the third edge.

17. (currently amended) The card according to claim 16,

wherein some of the plurality of polygonal cells are provided in the neighborhood of a fourth edge opposite to the third edge and are arranged parallel with the fourth edge, and

wherein the plurality of polygonal cells provided <u>parallel with</u> the third edge and the fourth edge form a single two-dimensional code.

18. (previously presented) The card according to claim 16, wherein the polygonal cells and the reference cell are not formed in an area surrounded by the plurality of corner cells.

19 - 21. (cancelled)

22. (original) A card game system comprising:

a game card having a cell assigned a predetermined color;

a game mat assigned a color of the same hue as the cell and provided with a gradation area in which brightness varies gradually;

an imager which acquires a frame image by capturing an image of the game mat and an image of the game card placed on the game mat;

a binarization processor which sets up a range of pixel values in the RGB format and translates the frame image into a binary bit representation;

an extractor which extracts the gradation area on the game mat, from binary data for the frame image; and

an adjuster which refers to binary data for the gradation area and accordingly adjusts the range of pixel values in the RGB format for binarization by the binarization processor.

23. (original) The card game system according to claim 22, wherein the outer edge of the gradation area is circular and brightness levels vary gradually and concentrically from high to low from the center of the gradation area toward the outer edge thereof.

24. (previously presented) The card game system according to claim 22, wherein the gradation area comprises at least an area with a higher brightness level than that of the cell of the game card and an area with brightness levels lower than that of the cell.

25. (original) An image analysis apparatus for analyzing a frame image capturing an image of a game card having a cell assigned a predetermined color and an image of a game mat which is assigned a color of the same hue as the cell and which is provided with a gradation area in which brightness varies gradually, comprising:

a binarization processor which sets up a range of pixel values in the RGB format so as to translate the frame image into a binary bit representation;

an extractor which extracts the gradation area on the game mat, from binary data for the frame image; and

an adjuster which refers to binary data for the gradation area and accordingly adjusts the range of pixel values in the RGB format for binarization by the binarization processor.

26. **(original)** An image analysis method for analyzing a frame image capturing an image of a game card having a cell assigned a predetermined color and an image of a game mat which is assigned a color of the same hue as the cell of the game card and which is provided with a gradation area in which brightness varies gradually, comprising:

setting up a range of pixel values in the RGB format so as to translate the frame image into a binary bit representation;

extracting the gradation area on the game mat, from binary data for the frame image; and

referring to binary data for the gradation area and accordingly adjusts the range of pixel values in the RGB format for binarization.

27. **(original)** A computer readable recording medium having embodied thereon a program product comprising computer readable codes for causing a computer to analyze a frame image that captures an image of a game card having a cell assigned a predetermined color and an image of a game mat which is assigned a color of the same hue as the cell and which is provided with a gradation area in which brightness varies gradually, comprising:

a translating module which sets up a range of pixel values in the RGB format so as to translate the frame image into a binary bit representation;

an extracting module which extracts the gradation area on the game mat, from binary data for the frame image; and

an adjusting module which refers to binary data for the gradation area and accordingly adjusts the range of pixel values in the RGB format for binarization.

28. (new) A rectangular card comprising:

a reference cell having a predetermined shape;

a plurality of polygonal cells to form code data; and

four corner cells, wherein

each of the four corner cells occupies a larger area than any of the polygonal cells,

two of the corner cells are provided in a neighborhood of a first edge, and the other two corner cells are provided in a neighborhood of a second edge opposite to the first edge, and

at least some of the plurality of polygonal cells are provided in a neighborhood of a third edge different from the first edge and the second edge and are arranged parallel with the third edge, and the other polygonal cells are provided in a neighborhood of a fourth edge opposite to the third edge and are arranged parallel with the fourth edge.

29. (new) The card according to claim 28, wherein

the reference cell is rectangular, and

the reference cell is provided in the neighborhood of the third edge such that a longer side lies in a direction of a length of the third edge.

30. (new) The card according to claim 29, wherein

at least some of the plurality of polygonal cells are provided between the third edge and the reference cell arranged such that the longer side lies in a direction of a length of the third edge.

31. (new) The card according to claim 28, wherein

the corner cells are triangular,

two of the corner cells are arranged such that one of the sides of the triangle is parallel with the first edge, and the other two corner cells are arranged such that one of the sides of the triangle is parallel with the second edge, and

polygonal cells other than said at least some of the plurality of polygonal cells are provided between the fourth edge and a line connecting the vertices of the triangles of the two corner cells respectively provided in the first edge and the second edge so as to be opposite to each other.

32. (new) The card according to claim 28, wherein

the corner cells are assigned a color different from that of the reference cell and the polygonal cells.

33. (new) The card according to claim 28, wherein the number of the plurality of polygonal cells arranged in sequence is limited.

34. (new) The card according to claim 28, wherein the plurality of polygonal cells are provided outside an area surrounded by the four corner cells.